DOCUMENT RESUME

ED 039 855 HE 001 587

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TITLE The After Effects of Putting the Blind Eye to the Telescope.
INSTITUTION American Association for Higher Education, Washington, D.C.
PUB DATE 3 Mar 70
NOTE 6p.; Paper presented at the 25th national conference of the American Association for Higher Education, Chicago, Illinois, March 3, 1970

EDRS PRICE EDRS Price MF-$0.25 HC-$0.40
DESCRIPTORS *College Teachers, Degrees (Titles), *Doctoral Degrees, *Employment Opportunities, Enrollment Rate, Enrollment Trends, *Graduate Students, Graduate Study, *Higher Education, Planning

ABSTRACT

The shortage of PhDs that characterized the past 30 years is over and probably won't be experienced again. Universities which used to employ 50% of the new PhDs, now employ 35-40%, and by the end of this decade, only 25% or less of the new doctorates will enter college teaching. The enrollment rate which yearly increased 10% in the sixties, will slow down to 2-3% in the seventies. It is doubtful that a greater percentage of high school graduates will enter college or that a new influx of non-whites will significantly affect college enrollment. It is also unlikely that many of those who enter a junior college will end up in a senior institution. In addition the college-age growth rate will decline in the late seventies and eighties. The greatest strain will be felt in the graduate schools and by young teaching aspirants receiving their doctorate: there will be less and less demand for their services. This may have the beneficial effect of increasing faculty stability and interest in teaching, of decompressing academic salary scales, and of giving new institutions an opportunity to attract better young faculty and develop quality programs. State planners should be aware of these trends in formulating long range plans. (AF)

ED039855

Group 36
Tuesday Morning, March 3

# THE AFTER EFFECTS OF PUTTING THE BLIND EYE TO THE TELESCOPE*

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Nearly six years ago I had the temerity to publish a small paper in the Educational Record entitled "A New Look at the Supply of College Teachers" that caused a ripple within a limited circle of educators concerned with the academic labor market. It was a backward look over the preceding decade, and it concluded that most of us in the mid-1960's were living in a mythical world of our own making. We were then all beating our breasts and proclaiming that the quality of our teaching faculties was rapidly deteriorating because of the growing teacher shortage, and that the chaos would fully overtake us by 1970. By contrast, I argued that we had all been brainwashed for fourteen years by Ray Maul's N.E.A. studies, and that in fact the world was improving, not grinding to a halt.

Shortly after publishing that article I began to sympathize with those unfortunate personalities in the commercials who have not yet discovered their need for Listerine or Lifebuoy soap. Some of my best friends thought I was either blind or slightly daffy, and I even began to receive crank letters in the mail. Suffering from a genetic memory of Scotch ancestors who made a habit of fighting for lost causes, the stony wall of disbelief egged me on to pursue the subject more vigorously. In 1966 I published projections for the coming decade that predicted an end to the "sellers market" for new Ph.D.s by 1969, and a surplus of doctorates in most fields beginning in 1970. There were a few converts in the next several years, but it was the 1969 Fall and Winter meetings of the major professional societies that won me more bets than I care to collect. I even found it half amusing to read the article in Science last November quoting leading chemists, physicists and mathematicians, bemoaning the lack of academic openings for their Ph.D. students: "Why didn't somebody tell us that the age of scarcity was over -- how could it have happened so suddenly?" The national press stories about the job hunting shambles at the M.L.A. meeting in Denver three months ago were sobering. Some persons are still hopeful that current Federal cut-backs have created a temporary imbalance and that next year all will be normal again. I must assure you that it will not. The shortage of Ph.D.'s that we have lived with for thirty years -- with the brief exception of 1952-55 -- is over. Barring a major war, in most major fields of study we will never experience it again.

For a decade colleges and universities each year have employed 50% or more of the new Ph.D.'s. When 1970 ends the figure is likely to be between 35% and 40%. I doubt it will ever exceed 40% again, and by the end of this decade only a quarter or less of new doctorates will enter college teaching. We are witnessing one of the most radical changes in the condition of higher education we have ever experienced, and it will have a major impact on the whole fabric of the academic world.

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*Paper presented to Discussion Group 36 on "Implications of future enrollments for staffing institutions and for institutional vitality" at the 25th National Conference on Higher Education, sponsored by the American Association for Higher Education, Chicago, Tuesday, March 3, 1970. Permission to quote restricted.

Such a dramatic change should also give us pause to reflect upon how little we know about ourselves -- how little thought we have given to the development of our educational system, and how inaccurately we have cast our objectives and done our planning. No great powers of intuition or prophecy were required to see that the academic environment was about to change dramatically; all one really had to do -- like Al Smith -- was to look at the facts and not put the blind eye to the telescope.

The last ten years has been a euphoric period of growth -- in enrollments, in Federal support for research, facilities, and student aid, in State subventions, in academic salaries, -- we are now coming down to earth with a thud. The bull market is over, and I see little indication on the Federal, State or foundation front to suggest it will return soon. Like any other industry that has lived for years with 10% growth rates and suddenly has to adjust to a more normal 2%-3% rate, we will find it difficult to adapt to this less exhilarating pace. As a result, to carry the economic analogy a step farther, our equivalent of capital goods industries -- i.e., our graduate schools -- may be entering a long period of overproduction and excess capacity.

The last frontier for rapid expansion (and one that may be popular enough politically to attract public support) is reflected by the advocates for open admissions. But at present rates of expansion we will have exhausted that source of incremental growth within five to seven years in most States. Few of us are psychologically or institutionally prepared for living in a system that has reached physical maturity -- it will require a severe readjustment in our outlook, and in the manner by which resources are allocated within the educational system.

When I began to write this paper I did not intend to be quite so dramatic in my statements -- and some of you will think I have greatly overstated the case. May I remind you of trends in several signigicant indicators of the system. The percentage of high school graduates who enter some type of formal post-secondary education was close to 25% in 1940; by 1960 it had risen to 55%, and today it exceeds 70%. Graduating high school seniors are now about 82% of the 18 year olds, and a sizable fraction of them graduate only by virtue of serving out their time. Thus we have nearly exhausted rising college entry percentages as a source of expansion.

You may ask, won't the new influx of non-whites, who have been under-represented in college in the past, add significantly to total enrollments? Assuredly they will enlarge enrollments and raise the percentages attending college -- but not significantly in the total system. If the same percentage of non-white high school graduates entered college as did whites, this year, total freshman enrollment might have been 50,000 greater (i.e., about 2 1/2% larger). Even in New York City, with its large Black and Puerto Rican population, the C.U.N.Y. open admission plan for this September is estimated to add about 5,000 students to the freshman class, less than a third of them non-white. Also we sometimes forget that in some parts of the country the Negro high school graduate has customarily entered college. For example, the 1960 Census reported a higher proportion of Negroes than whites age 18-21 in the city of Atlanta, attending college. Assuredly there are major problems of meeting financial needs of students from poor families and of assuring equitable access to all types of institutions, but the magnitude of the total system will not be drastically affected.

A greater potential impact on the size of the system might occur if there were a marked shift in the pattern of continuation in college. Over the last twenty years the proportion of total college students in the first year of study has risen

significantly, chiefly as the result of the growth of junior colleges. So far only a trickle of students have progressed from junior ot senior institutions, but this is a potential source of growth. The California system is sometimes held up as a model in this regard, yet several years ago, when I last looked at California figures, they were quite discouraging. Only one in three who entered a junior college continued for a second year, and only about one in three of the returnees completed the two year program. Of the latter who were in the college parallel track, about two-fifths continued their education in a senior institution. However, two-fifths of a third of one-third is a very small fraction (e.g., 4 1/4%). I see few signs of this pattern being significantly altered in the 1970's, for the limiting factors are individual motivation and aptitude, not structural obstacles.

The final, and most basic, factor which determines enrollments is the size of the college-age cohort. This total pool, whose growth rate has averaged 5 1/5% over the last seven years, will average only 2 1/2% a year increase in 1970-75, 1/2% in 1975-80, and decline nearly 1% a year in the early '80's. By 1985 the number of 18 year olds will be 500,000 (12%) below the 1978 level.

A declining rate of growth is not necessarily a bad thing -- as individuals we experience it organically from about age ten on, we adjust to it intellectually after age 20, and we adapt ourselves economically after age 30. As a system of higher education we are entering a period comparable to adolescence, with all the problems that entails.

The major stress and strain will be felt in the graduate schools, and by the young teaching aspirants receiving their doctorates. Let me illustrate. At the peak of expansion, 1964 and 1965, we needed to hire five teachers for every one that died or retired -- that is, one as a replacement and four to meet growing enrollments. For the 1970-77 period this ratio will probably drop to 3:1; in the 1978-85 period it promises to be less than 2:1. The decrease in demand for college teachers is almost as dramatic in absolute terms. In 1964-65 we needed about 18,000 new college teachers just to meet expanding enrollments; for the next few years this need will average about 12,000, and in all likelihood, it will decline to about 7,500 annually a decade from now. (A completely stationary system, quite obviously, would have a zero demand for expansion purposes).

Last summer, in making the most recent revision of the college teacher projections, I predicted a hiring level for new college teachers of only 14,000 for 1970-71 -- down from 17,500 last year and over 20,000 for the two preceding years. The estimate resulted from predicted increases in total enrollments of less than 200,000, as contrasted with the nearly half a million increments over the last five years. Indeed, the Office of Education reported in October that opening Fall enrollment had increased by only 150,000 in 1969, the smallest increase since the Korean War. The impact on the academic labor market was strengthened by several extraneous factors, notably the cut-back in Federal support for education and research, the tightening of State budget allotments to higher education (e.g., California, Louisiana), and the erosion of real dollar resources by inflation. In some fields the squeeze had been noticeable a year earlier; for example, the 1968 election resulted in the net departure of several hundred economists form Federal agencies, adding significantly to the academic job seekers for 1969-70. In mathematics, and in some areas of engineering and physics, Federal reductions in defense spending and R & D had begun to show up in the job market in 1969.

The Modern Language Association meeting in Denver three months ago saw an unprecedented number of job seekers prusuing a shrinking number of announced job openings. Several chairmen of major departments departed early after being literally hounded through the halls of the Hilton Hotel. At the close of the meeting a somewhat frenzied caucus of disappointed job aspirants and New Left literateurs presented a demand at the business meeting that university departments be taxed by M.L.A. to privide compensation for those not successful in finding employment. Doctoral candidates who several years earlier would have held out for Ivy League posts were quickly accepting offers from State colleges and emerging universities, and others with considerable scholarly promise were taking posts in previously unheard of junior colleges. It is understandable that a young Ph.D. with a specialty in 18th Century Italian Literature or Victorian Novel would feel more frenzied by a tight job market than an economist who might be equally at home in a bank or Federal agency, or an engineer who could practice his trade commercially.

Some of the effects of a shift in the academic labor market are healthy for the system, even though perhaps unpleasant for individuals aspiring to an academic career. Other effects arelikely to be unpalatable on all counts. Let me briefly review several of these anticipated effects.

First, for fifteen years academic salary scales have been compressed. I can think of few other skilled occupations, apart from the performing arts and the world's oldest profession, where the compensation of senior members is not relatively much greater than that of their junior associates. The average salary of full professors, reported by A.A.U.P. for 1968-69, was only 61% higher than for assistant professors. Retiring full professors of better than average accomplishment in my University typically earn in their last year of employment about twice what the promising beginner earns. The range between the lowest and highest salaried full-time teacher with the terminal degree exceeds 3:1 in few institutions.

A recent survey of lifetime income paths for persons with the doctorate showed an approximate 2:1 ratio between beginning salary and peak income for academicians, 3:1 for similar persons with the doctorate employed in government, and 4:1 for Ph.D.'s in private business. Doctors, dentists, lawyers, and similar professionals follow more in the government or business pattern, while academics have a pattern closer to social work, school teaching and graduates of divinity schools.

For nearly two decades senior professors have experienced 4-5% average salary increases, while assistant professors have been in the 7-10% range. I would anticipate that the present shift in the academic labor market would tend to slow down overall increases, and shift the relative advantage to the senior professors. I believe this is a healthy shift, long overdue.

Second, academicians are less likely to be a race of 20th century nomads under conditions of greater job scarcity. For the past fifteen years an individual's career has frequently been advanced by hopping from campus to campus, and tenure has declined in importance. A greater sense of faculty stability and institutional identification may reoccur as the result of market changes. Tenure decisions will probably be made more selectively in the future than has recently been the case, especially since a reduction in growth will tend to gradually increase the proportion of faculty in the senior ranks. These forces will dampen the opportunism of some faculty members, and the college teacher will have greater incentive to identify his well-being with that of his institution. A corollary of the expected decrease in mobility will be a greater tendency toward unionization if faculty do not feel they have an effective voice in the affairs of the institution.

Third, there is likely to be increasing pressure both from junior faculty seeking tenure and from administrations attempting to keep instructional costs from rising, to lower the normal retirement age of faculty. Many institutions raised their retirement age to 68 or 69 within the last decade because of the shortage of adequately trained faculty. Reversing the trend is difficult, for frequently senior faculty have planned their retirement based on current rules (or the practice in effect at the time of their employment). However, I believe there will be a concerted move in this direction over the next five years.

The more plentiful supply of faculty provides greater flexibility for institutions of higher education, but it occurs at a time when the financial squeeze restricts the ability of most colleges to avail themselves of this talent. From a strictly manpower viewpoint, for the first time in fifteen years there is now an opportunity to reduce student-staff ratios and reverse the trend towards larger classes. Financially, however, most institutions are being driven to find greater instructional economies. If anyone offered me a hundred newly minted Ph.D.'s of great scholarly promise at only $5,000 cash for next year, I would regretfully decline, for my task at the moment is to attempt to shrink our faculty by approximately 5% in order to keep our deficit from soaring. Normal attrition in our case is nearly 7%, but the next several years promise to be clearly subnormal in this respect.

It may seem ironic that just as we have reached a point where there will be sufficient numbers of highly qualified teachers to enrich the educational process, the groiwng financial pressures are going to force us to move in the reverse direction. Typical teaching loads around the country have declined by about one-third over the past fifteen years when faculty were scarce; now that there is a more abundant supply of well trained college teachers average teaching loads are likely to increase again. This is partly a market phenomenon -- as new positions become relatively scarce resistance to classroom assignments diminishes. Partly it is the result of a national choice to invest limited resources in broadening educational opportunities rather than enrichment for a more limited number. And perhaps most importantly it reflects growing pressures from students and the general public to counter what John Gardner characterized as a new academic malady -- the flight from teaching.

A new or rapidly expanding institution is in a most advantageous position today to attract better young faculty than it could have done in the recent past. Young growing institutions will have a better opportunity to develop quality programs and to move into the limelight in the 1970's than in the 1960's. States which have been slow to develop broad public systems of higher education in the past will have a comparatively easier time of it as far as manpower resources are concerned in the coming years.

Apart from Junior College enrollments, the fastest growing sector in higher education for the last ten years has been the graduate schools. Events of the last twelve months, however, have markedly altered the outlook in advanced studies. Harvard and Yale have announced decisions to reduce graduate enrollments, and Princeton recently indicated that they, and several other Ivy League institutions, have found for two successive years that a declining percentage of their college seniors were going on to graduate and advanced professional education. It is hard to unravel the effect of the draft on such educational choices, but it seems increasingly likely that the rate of growth in graduate education will also diminish over the coming decade.

The graduate schools -- most particularly in those doctoral areas devoted primarily to preparing college teachers -- will be under the greatest stress and strain during the coming decade. The growing scarcity of good academic positions at the end of the Ph.D. line is bound to have severe psychological impact upon graduate students. Add to this the fact that increasingly the Ph.D. programs have been attracting bright students who are anti-establishmentarian in outlook, and it is apparent that the departments and graduate deans will have their hands full. Top this off with diminishing fellowship and research support, plus the headaches of adjusting to declining enrollments is some universities, and I foresee Association of Graduate Schools meetings being one long tale of woe during the 1970's.

Let me complete this look into the future by underlining one concern referred to earlier. I suggested that we have lived so long in a period of rapid growth that we are ill-prepared to adjust to the more stationary condition of 1975-85. My deepest concern lies with the States and their planning procedures. Many of those responsible for planning the future believe that higher education will follow the same course the high schools followed over the past generation, and that ten years from now we will have something close to 75% of the age group in college. I believe all the evidence provided by the young today is counter to this view. I take the revolt against the materialist society more seriously than do some. With the movement towards a voting age of eighteen, the demands for earlier emancipation, the disenchantment with the established world symbolized (but not necessarily caused) by the spreading drug culture, there is growing evidence of rebellion against the collegiate formal educational process and the standard degree pattern. Dropping out -- and intermittently dropping in again -- may become a much more common occurence. Nor do I think that is necessarily an undesirable pattern, for so many students are present in college today under real or imagined duress that the educational process suffers immeasurably.

In short, I believe there is a real danger that expansion-minded state planning agencies may over-build the state systems of higher education by the middle or late 1970's. As we approach that danger point a substantial portion of the private sector will be in a losing battle for survival. Only those private institutions who provide an educational experience believed to be far superior to the public institutions are likely to survive in a world with more places open than there are students. It is true that the decade of the 1990's, with its again enlarged college-age cohort, may save us -- but it could be ten years too late for many private colleges and universities.

The 1970's are going to be a period of radical adjustment for higher education -- I hope we are prepared to be sufficiently radical to cope with the challenges.